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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/493,942	01/28/2000	James Y.C. Chang	36491/LTR/B600	2849

26111 7590 10/20/2003

STERNE, KESSLER, GOLDSTEIN & FOX PLLC  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER
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DONOVAN, LINCOLN D

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 10/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/493,942

Applicant(s)  
Chang

Examiner  
Lincoln Donovan

Art Unit  
2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jul 21, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7, 11, 12, 14, and 17-28 is/are pending in the application.
- 4a) Of the above, claim(s) 17-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11, 12, 14, and 24-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-7 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuettner et al. [US 5,852,866] in view of Ikeda et al. [US 5,492,856] and Hu et al. [US 4,908,328].

Kuettner et al. disclose an integrated inductor comprising:

- a spiral inductor metalization pattern [figure 3] including a plurality of parallel tracks [21] in a spiral pattern having a square configuration on a common layer, each track having first and second ends.

Kuettner et al. discloses the instant claimed invention except for: the metalization pattern being formed on a substrate and metalization pattern being electrically isolated by polysilicon.

Ikeda et al. disclose a monolithic inductor being formed on a substrate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the metalization patterns of Kuettner et al. on a substrate, as suggested by Ikeda et al., for the purpose of easily integrating the inductor.

Hu et al. disclose the use of polysilicon to provide isolation for a diffusion line.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to use polysilicon with the diffusion layer of Kuettner et al., as modified, as suggested by Hu et al., for the purpose of providing isolation for the conductor lines.

Regarding claim 2, official notice is taken that a CMOS process is a well known method of producing an integrated inductor.

Regarding claim 6, Kuettner et al. and Folker et al. disclose multiple layers interconnected with vias [25].

Regarding claims 11-12, Ikeda et al. discloses the use of N+ diffusion layer directly beneath the metal layer [figure 2].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the n+ diffusion layer for the purpose of generating a desired reverse bias and increasing the Q factor. The specific arrangement of the layer would have been an obvious design consideration based on the specific application and operating environment of the inductor.

3. Claims 14 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuettner et al., as modified, as applied to claim 1 above, and further in view of Folker et al. [US 5,777,539].

Kuettner et al. disclose the instant claimed invention except for the plurality of conductor lines coupled together at their starting and end points.

Folker et al. disclose a spiral inductor metalization pattern [figure 2] having a plurality of conductor lines coupled together at their starting and end points.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to couple the end points of the conductors of Kuettner et al., as modified, as suggested by Folker et al., for the purpose of reducing the resistance of the winding.

4. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuettner et al., as modified, as applied to claim 1 above, and further in view of Fawal et al. [US 6,049,258].

Kuettner et al., as modified, discloses the instant claimed invention except for the specific shape of the inductor metalization layers and the use of the inductor in transmission lines.

Regarding claim 4, Fawal et al. discloses the use of orthogonal shaped metalization layers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the orthogonal shape of Fawal et al. in Kuettner et al., as modified, for the purpose of optimizing the sizing of the inductor.

Fawal et al. discloses the inductor being used for transmission lines.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the transmission design of Fawal et al. with the inductor design of Kuettner et al., as modified, for the purpose of optimizing the transmission network.

#### ***Response to Arguments***

5. Applicant's arguments filed 07-21-03 have been fully considered but they are not persuasive.

Applicant argues that the diffusion layers are not isolated with polysilicon and Kuettner et al., as modified, does not show the input and output leads being tied together.

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Examiner disagrees. Newly cited Hu et al. discloses the use of polysilicon as an isolation means. Kruettner et al., as modified, disclose coil configuration as claimed.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Lincoln Donovan whose telephone number is (703) 308-3111.

The fax number for this Group is (703)308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-0956.

LDD

  
LINCOLN DONOVAN  
PRIMARY EXAMINER  
GROUP 2103